



Apex Locators

12 Golden Rules



1

Always use in combination with radiographs.

Over reliance on one or the other will result in insufficient information needed to obtain the most accurate outcome.

2

The presence of blood does not affect the measurement.

However, blood should not be overflowing out of the canal.

3

Use a file that matches the canal diameter.

A file too thin in a large canal can give different results when the measurement is repeated.

4

The root canals should be moist.

A dry canal will prevent conductivity, and will not give a reading.

5

No liquid overflow into pulp chamber.

In teeth with multiple canals it is important to ensure there is not liquid overflow into the pulp chamber.

6

Caution: Open or large apex.

All apex locators are unreliable in cases where there may be incomplete development or a large periapical lesion.

7

Remove all caries prior to endodontic treatment.

All caries needs to be removed prior to starting endodontic treatment. Also broken down crowns of teeth should be restored prior to any attempt to use an apex locator.

8 Avoid all contact with restorative materials containing metal.

9 Lateral canals are a limitation of all apex locators.

10 It is advisable to remove all gutta percha in canal prior to attempting any measurements.

11 **Perforation or root fracture.**
If after a few millimeters, the apex locator indicates you are at the apex, suspect a perforation. This is another instance where x-rays should be used to confirm your suspicions.

12 The most reliable localization is when your apex locator is telling you that the file is at the apical constriction, which is supposed to coincide with the minor apical foramen.
An apex locator is not a measurement device, it only gives an estimation of the file localization into the canal.